



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,737	03/04/2004	Wen-Pao Tseng	3223-48	5321

7590 12/20/2005

TROXELL LAW OFFICE PLLC
Suite 1404
5205 Leesburg Pike
Falls Church, VA 22041

EXAMINER

LE, KHANH H

ART UNIT PAPER NUMBER

2875

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/791,737	TSENG, WEN-PAO	
	Examiner	Art Unit	
	Khanh H. Le	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
Page 2, line 5, "those light source" should be changed to "those light sources".
Page 4, line 26, "locking pin 91" should be changed to "locking pin 81".
Page 5, line 5, "threaded hole 92" should be changed to "threaded hole 82".
Page 5, line 6, "reflector mask 19" should be change to "reflector mask 10".
The terms "abutted" and "dimmer" are misused throughout the application.
The application is replete with improper grammar and idiom, and contains numerous typographic errors.
Appropriate correction is required.

Claim Objections

2. Claims 1, 4, 6, 7, and 9 are objected to because of the following informalities:
Claim 1, line 7, the phrase "at where between" is indefinite. What relationship is this attempting to describe?
Claim 1, line 8, " the diffuser plate" lacks of antecedent basis.
Claim 1, line 10, "the light source" lacks of antecedent basis.
Claim 4, line 2, "the long stick shaped dimmer device" lacks of antecedent basis.
Claim 6, lines 2-3, "the surface" lacks of antecedent basis.
Claim 7, line 6, "the insertion" lacks of antecedent basis.

Claim 9, line 3, "the combination" lacks of antecedent basis.

Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "multiple optical films" in claim 1, "multiple locking pin are provided on the surface of the insertion mechanism of the dimmer device" in claim 6, and "the dimmer device is locally or entirely treated with ink, matted, or printed, or distributed with concave and convex points in either round, rectangular, diamond or polygonal form" in claim 14 must be shown or the features canceled from the claim. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet"

Art Unit: 2875

or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (US Patent No. 6,870,525) in view of Bourdelais et al. (US Publication No. 2003/0214812).

6. With respect to claim 1, Kawabata teaches that a backlight module having a reflector mask (Fig. 2B, item 7), multiple light sources (2), a diffuser (6), and a LCD (300) arranged in sequence from inside out; wherein, each light source is made of stripe light tube, and disposed at a proper space (Par. 0050, lines 1-6) between the reflector mask (7) and the diffuser plate (6) is characterized by that the backlight module being provided with at least one dimmer device (1); lights from both sides of the light source being properly refracted and reflected by the dimmer device (1) to evenly diffuse

Art Unit: 2875

towards the diffuser plate (6). Kawabata does not teach the diffuser having multiple optical films.

Bourdelaïs teaches a light diffuser for a backlight liquid crystal display (Par. 0002) having multiple optical films (12, 14, and 16) and these optical films help to reduce the thickness of the backlight module (Par. 0071), polarize light (Par. 0167), enhance light brightness (Par. 0166), change the light from specular to diffuse, and distribute light evenly across the entire display area and (Par. 0034, lines 5-7).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use multiple optical films ~~in the backlight modules~~, as taught by Bourdelaïs, in Kawabata's backlight module, so that the multiple optical films can help to reduce the thickness of backlight modules, polarize light, enhance brightness, change the light from specular to diffuse, and distribute light evenly across the entire display area.

7. With respect to claim 2, Kawabata discloses that a backlight module having the dimmer device (1) is related to a solid stick structure (Fig. 1A shows the dimmer device having a bar shape, and Fig. 1B shows the dimmer device having a solid rectangular cross-section area).

8. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (US Patent No. 6,870,525) and Bourdelaïs et al. (US Publication No.

Art Unit: 2875

2003/0214812) as applied to claim 1 above, and further in view of Lee et al. (US Patent No. 6,857,759).

9. With respect to claim 3, Kawabata teaches a backlight module having a dimmer device (1) related to a solid stick structure but does not teach the dimmer device related to a hollow stick structure.

Lee teaches a backlight module having the dimmer device (brightness control unit, 400 and 310) that has a hollow stick structure (Figs. 8-11).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to make the dimmer device hollow, as taught by Lee, so that backlight module of Kawabata can be lighter in weight.

10. With respect to claim 4, Kawabata teaches a backlight module having a dimmer device (1) that can be assembled to the reflector mask (Col. 6, lines 46-48) but is silent about how to secure the dimmer device to the reflector mask.

Lee teaches a simple and inexpensive way to secure a dimmer device (Fig. 1, items 400 and 300) to the reflector mask (115) is by using double-sided tape (Fig. 4, item 330) to adhere the dimmer device (400 and 300) to the reflector mask (115).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use double-sided taped, as taught by Lee, to adhere Kawabata's dimmer device to the reflector mask, since double-sided taped is inexpensive and easy to use.

Art Unit: 2875

11. With respect to claims 5 and 6, Kawabata teaches a backlight module having a dimmer device (1) that can be mounted on the reflector mask (Col. 6, lines 46-48) but is silent about multiple locking pins, and respective locking holes.

Lee teaches a backlight module having multiple locking pins (Fig. 5, item 340) provided on the surface of the insertion mechanism of the dimmer device (400 and 300) to be bounded to the reflector mask (115), and respective locking holes (112) provided on the reflector mask (115) or on the mechanism (110) disposed below the reflector mask for the dimmer device (400 and 300) to be incorporated to the reflector mask (115).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to include an insertion mechanism that has multiple locking pins, as taught by Lee, in the dimmer device of Kawabata so that the dimmer device is easily and accurately assembled.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (US Patent No. 6,870,525) and Bourdelais et al. (US Publication No. 2003/0214812) as applied to claim 1 above, and further in view of Lee (US Patent No. 6,902,300).

13. With respect to claim 7, Kawabata teaches a backlight module having a dimmer device (1) that can be mounted on the reflector mask (Col. 6, lines 46-48) but is silent about how the dimmer device can be secure to the reflector mask.

Lee teaches an object (60) could be tightly coupled to a reflector (40) of a backlight assembly is by fastens a screw (80) that passes through a hole in the reflector (40) and to a fitting hole (67) in the object (80).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use screws for fastening the dimmer device to the reflector mask, as taught by Lee, so that the Kawabata's dimmer device can be tightly coupled to the reflector mask.

14. Claims 8-11, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (US Patent No. 6,870,525) and Bourdelais et al. (US Publication No. 2003/0214812) as applied to claim 1 above, and further in view of Parker et al. (US Patent No. 6,752,505).

15. With respect to claims 8-10, Kawabata teaches a backlight module having a dimmer device but is silent about the dimmer's surface.

Parker teaches a way to redirect more of the incident light from the backlight by apply light directing films (Col. 2, lines 29-33) having well defined shapes such as grooves, V-shaped cut, or multiple convex surfaces, or individual deformities of well defined size, shape, height, and angle (Figs. 5-21) across the reflective surface.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to apply the light directing films that have a well defined shape such as grooves, V-shaped cut, or multiple convex surfaces, or individual deformities of

Art Unit: 2875

well defined size, shape, height, and angle, as taught by Parker, across reflective surface of Kawabata's dimmer device, so that Kawabata's dimmer device can improve light at the dimmed area.

16. With respect to claim 11, Kawabata teaches that a dimmer device for a backlight module can be made by a suitable plastic material but is silent about the transparency of the plastic material.

Parker teaches a transparent material can redistribute the light that passes through it (Col. 1, lines 17-19).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to make Kawabata's the dimmer device from a transparent material, as taught by Parker, so that light that passing through the dimmer can redistribute for better light efficiency.

17. With respect to claim 13, Kawabata teaches that a dimmer device for a backlight module can be made by a suitable plastic material but is silent about the surface finish of the dimmer device.

Parker teaches that a matte finish produces a softer image (Col. 1, line 34).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to make Kawabata's dimmer device having a matted finish, as taught by Parker, so that light from the backlight module can produce a softer image.

Art Unit: 2875

18. With respect to claim 14, Kawabata teaches that a dimmer device for a backlight module can be made by a suitable plastic material but is silent about the characteristic of the dimmer device.

Parker teaches a surface that is locally or entirely treated with ink (Col. 9, lines 48-50), matted (Col. 1, line 34), or printed (Col. 9, lines 48-50), or distributed with concave (Fig. 15) and convex points in either round, rectangular, diamond or polygonal form (Fig. 5a-n) can direct and distribute incident light from the backlight to the desired view angle (Col. 2, lines 32-33).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to incorporate the technique of treating the surface with ink, matted, or printed or distributed with concave and convex points in either round, rectangular, diamond or polygonal form, as taught by Parker, to the surface of the Kawabata's dimmer device, so that Kawabata's dimmer device can direct and distribute incident light from the backlight to the desired view angle.

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (US Patent No. 6,870,525) and Bourdelais et al. (US Publication No. 2003/0214812) as applied to claim 1 above, and further in view of Itoh (US Patent No. 6,491,411).

Art Unit: 2875

20. With respect to claim 12, Kawabata teaches that a dimmer device for a backlight module can be made by a suitable plastic material (Col. 6, lines 42-45) but is silent about the color of the plastic material.

Itoh teaches a white reflecting surface is easier to control the direction of light emitted from a lamp in the backlight of a liquid crystal display (Col 1, lines 31-34).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to make Kawabata's the dimmer device having a white finish, as taught by Itoh, so that it is easier to control the direction of the light that emits by the lamp.

21. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (US Patent No. 6,870,525) and Bourdelais et al. (US Publication No. 2003/0214812) as applied to claim 1 above, and further in view of Blanchard (US Patent No. 6,692,137).

22. With respect to claims 15 and 16, Kawabata teaches a backlight module having a diffuser but does not teach a backlight module also have a prism and reflective polarizing sheet.

Blanchard teach a backlight assembly having the optical films comprised of 1-3 diffuser sheet (28), a prism, 0-2 brightness enhancement films, and 0-1 reflective polarizing sheet (38, 40, and 42, and Col. 5, lines 56-61). The optical films are for facilitating light transmission through the display (Col. 5, lines 61-64).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to include a lower diffuser sheet, a prism and a reflective polarizing sheet, as taught by Blanchard, in Kawabata's backlight module so that the optical films can help to facilitating light transmission through the display.

23. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (US Patent No. 6,870,525) and Bourdelais et al. (US Publication No. 2003/0214812) as applied to claim 1 above, and further in view of Takeuchi et al (US Patent No. 5,944,405).

24. With respect to claim 17, Kawabata teaches the stick structured dimmer device (discussed in claim 2) maybe made from polycarbonate (PC) or any suitable plastic material (Col. 6, lines 42-45) but Kawabata is silent about the plastic material being transparent.

Takeuchi teaches a light diffusing sheet can be made from Polycarbonate (PC), or Polymethyl methacrylate (PMMA), or Polyethylene Terephthalate (PET) since these materials are transparent (Col. 6, lines 59-66).

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use Polycarbonate (PC), or Polymethyl methacrylate (PMMA), or Polyethylene Terephthalate (PET) materials, as taught by Takeuchi, to make Kawabata's dimmer device since these materials are transparent.

25. With respect to claims 18 and 19, Kawabata teaches the stick structured dimmer device (discussed in claim 2) maybe made from polycarbonate (PC) or any suitable plastic material (Col. 6, lines 42-45) but Kawabata is silent about the appearance of the plastic material.

Takeuchi teaches one way to construct a reflecting layer is by applying a coat of white powdered pigment over the optical surface to create a layer of very white surface. Another way to construct a reflecting surface is by applying a thin layer of metal over a matted optical surface. The white or matte reflecting surface have the capability of reflecting or scattering light.

It would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use Polycarbonate (PC), or Polymethyl methacrylate (PMMA), or Polyethylene Terephthalate (PET) materials, as discussed in claim 17 above, to make Kawabata's dimmer device, and apply a coat of white powder pigment over the surface of the dimmer device, or apply a thin layer of metal over the matte finish of the dimmer device, as taught by Takeuchi, so that the dimmer device can reflect or scatter light.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki et al. (US Patent No. 6,590,626) discloses a backlight unit having light shield between light sources (Figs. 7 and 8). Hasegawa (US Patent No. 6,580,476) discloses polarizing sheets, diffusion sheets, and reflection sheets being

used in a LCD display. Kim et al. (US Publication No. 2005/0073858) disclose screws being use to fasten objects to the reflector plate of a backlight assembly.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh H. Le whose telephone number is (571) 272-8325. The examiner can normally be reached on Monday - Friday, 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on (571) 272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khanh H. Le
Examiner
Art Unit 2875

KHL



RENEE LUEBKE
PRIMARY EXAMINER